# TABLE OF CONTENTS
# AVENAL ENERGY AFC

# TABLE OF CONTENTS
# AVENAL ENERGY AFC
## (Continued)

# TABLE OF CONTENTS
# AVENAL ENERGY AFC
**(Continued)**

## LIST OF TABLES



## LIST OF FIGURES



## LIST OF ACRONYMS

## 6.6 BIOLOGICAL RESOURCES

This section describes the biological resources in the vicinity of the Site and the conditions and Site features that will result in the Project having minimal effect on biological resources. The Site is located in the southwest San Joaquin Valley in an area of extensive agricultural development. The closest land that is not farmed is approximately 2 miles west of the Site, across Interstate 5 in the Kettleman Hills. Based on review of literature and biological resource agency data bases, and field surveys, no special status species are known to occur within the Site or Project linear corridors. In addition to these beneficial siting characteristics, the Project will include a preconstruction biological clearance to assure that special status species are not impacted.

Site and vicinity surveys were conducted to verify the absence of any listed endangered or threatened species. In spite of the absence of such species on the Site and along the Project linear corridors, the historical presence of the San Joaquin kit fox in the Site region has dictated that the United States Fish and Wildlife Service (USFWS) take an interest in this species. Their determination that even the highly disturbed agricultural row crop and orchard uses could serve as foraging habitat for this species is the cause for specific kit fox habitat compensation measures described in Section 6.6.2 - Impacts. Existing biological resources in the Site vicinity and potential impacts of the Project are described below.

### 6.6.1 EXISTING CONDITIONS

A biological study of the Site and surrounding region was conducted by EIP Associates. A detailed report of existing biological conditions, methods used, California Native Species Field Survey Forms and qualifications of persons conducting the study is provided in Appendix 6.6-1. Existing biological resources are summarized in this section. There are no known native fish or wildlife species of commercial or recreational value that could be affected by the Project.

#### 6.6.1.1 Regional Overview

A regional overview of a 10-mile radius surrounding the Site was conducted to describe the range of environmental features in the area. Lands within the 10-mile radius (see Figure 6.6-1) are referred to herein as the "region." The northeast approximately one-half of the region is encompassed by intensive agriculture on the San Joaquin Valley floor. The Site occurs approximately 2 miles inside the boundary of this intensive agricultural setting (see Figure 6.6-1). In contrast, the southwest half of the region includes the Guijarral Hills, Kettleman Hills, Kreyenhagen Hills and Kettleman Plain. These areas are characterized by agriculture in the

Kettleman Plain, open space and petroleum production in the Guijarral Hills and Kettleman Hills, and open space in the Kreyenhagen Hills.

The Site and the immediate surrounding area are planted with row crops, orchards and vineyards, and has been intensively disturbed by farming activities and infrastructure development (e.g., roads and canals) since the early 1950s. The Site and adjacent agricultural parcels to the south and west within the City of Avenal are zoned industrial. The agricultural lands to the north and east are unincorporated lands of Kings County that are designated for General Agriculture.

Vegetation in the region historically included native grassland and scrub communities. These communities have been replaced over the past 50 years by nonnative vegetation communities (i.e., nonnative annual grasslands through grazing) primarily through agriculture (i.e., farming on the valley floor and grazing in the uplands). A description of the predominant existing vegetation communities and wildlife in the region is provided in the following section.

### 6.6.1.2 Regional Habitats

#### 6.6.1.2.1 Agricultural Land

The northeast portion of the region, generally east of Interstate 5, is primarily agricultural land with the predominant vegetation communities consisting of cropland and orchard/vineyard. The Site and Project linear corridors lie entirely within this setting. The cropland vegetation community consists primarily of row crops, orchards and grain crops. Most croplands support annuals that are planted in spring and harvested during summer or fall. In many areas, second crops are commonly planted after harvesting the first.

Orchards in the region are typically open, single-species, tree-dominated habitats. Trees range in height from 15 to 30 feet. The understory is usually composed of low-growing grasses and other herbaceous plants, but are managed to totally or partially prevent understory growth. Vineyards are composed of single species planted in rows, usually supported on wood and wire trellises. Between rows of vines, grasses and other herbaceous plants may be planted or allowed to grow as a ground cover to control erosion.

A United States Bureau of Reclamation (USBR) right-of-way dissects the agricultural lands and contains the concrete-lined San Luis Canal and adjacent maintained grassland swaths that occur between the canal and the edge of the right-of-way. These maintained grasslands occur on the artificial fill of the canal embankment and on adjacent disturbed soil to the outside limit of the

00-311AFC-25.DWG REV. 10/08/01


LEGEND:

AVENAL ENERGY SITE

10 MILE RADIUS

REFERENCE:

Printed from TOPO! © 2000, National Geographic Holdings WWW.TOPO.COM) and EIP Associates, EIP GIS Program, June 2001

# REGIONAL OVERVIEW

**DUKE ENERGY AVENAL, LLC**

*AVENAL ENERGY* | **FIGURE 6.6-1**

right-of-way. The DWR that manages the San Luis Canal as part of the California Aqueduct system conducts routine maintenance in these grasslands such as mowing and occasional pesticide applications (Vance, 2001).

#### 6.6.1.2.2 Natural Habitat Communities

The closest natural habitat communities are located within the Kettleman Hills on the west side of Interstate 5, approximately 2 miles west and southwest of the Site. The Kettleman Hills and other areas farther to the north and west support large expanses of annual grassland. Annual grassland habitats are open grasslands composed primarily of annual plant species. Nonnative annual grasses are the dominant plant species in this habitat. These species include wild oats (*Avena* spp.), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), red brome (*Bromus rubens*), wild barley (*Hordeum* spp.) and foxtail fescue (*Festuca megalura*). Common forbs include broadleaf filaree (*Erodium botrys*), redstem filaree (*Erodium cicutarium*), turkey mullein (*Eremocarpus setigerus*), true clovers (*Trifolium* sp.), bur clover (*Medicago polymorpha*) and popcorn flower (*Plagiobothrys nothofulvus*). Most of these species were introduced with cattle and horses during the early settlement of California. These nonnative species form a vegetation community that is successful at rapidly colonizing soils that have been disturbed. This is the dominant natural habitat community within the Kettleman Hills, Guijarral Hills and Kreyenhagen Hills west of Interstate 5.

Within the annual grassland areas are limited inclusions of riverine, freshwater emergent wetland and valley foothill riparian vegetation communities. These vegetation communities occur in association with surface water that occurs following infrequent rainstorms. Due to the dry local climate, between 6 and 7 inches of average annual rainfall, and the lack of large watershed areas, these habitats occur as small inclusions within the grasslands. Limited inclusions of these natural habitats occur in the foothills west of Interstate 5, but are absent in the vicinity of the Site.

### 6.6.1.3 Regional Wildlife

#### 6.6.1.3.1 Common Wildlife Species

Many species of native and nonnative fish and wildlife are known to inhabit the San Joaquin Valley and adjacent foothills. Bird species in the region include wading birds, shorebirds, gulls, terns, songbirds and raptors. The most common bird species found within the region include western meadowlark, mourning dove, northern mockingbird and Brewer's blackbird. Other common wildlife species in the region include small and large mammals (e.g., California ground squirrel, coyote), reptiles (e.g., gopher snake, side-blotched lizard) and amphibians (e.g., bullfrog, Pacific tree frog).

6.6.1.3.2 Special Status Species Potentially Occurring in the Region

The agricultural lands in the region east of Interstate 5 have low habitat value due to extensive disturbance caused by farming over the course of several decades. In contrast, the natural communities west of Interstate 5, which will not be impacted by the Project, provide important habitat for vegetation and wildlife, including several special-status species such as San Joaquin kit fox, blunt-nosed leopard lizard and short-nosed kangaroo rat. The Kettleman and Kreyenhagen Hills provide habitat for special-status plants such as San Joaquin woollythreads and California jewelflower. The USFWS has designated the natural habitats west of Interstate 5 and the lands that interconnect them as important areas to protect for their contributions to meeting the overall objectives of the *Recovery Plan for Upland Species of the San Joaquin Valley, California* (SJVRP) (USFWS, 1998). The Project will not impact these lands. Interstate 5 substantially precludes movement of terrestrial animals between the Kettleman Hills and the agricultural lands to the east. Few sitings of special-status terrestrial animals are recorded in the agricultural lands east of Interstate 5 in the Project region.

This section presents a list of special-status species that could occur within the region (based on records within current USFWS, California Department of Fish and Game [CDFG], and DWR databases) and an assessment of whether each could occur on the Site, within 1 mile of the Site or within 1,000 feet of Project linear corridors. Any species that is known to occur in the region with habitat needs similar to habitats present on or within 1 mile of the Site, or within 1,000 feet of Project linear corridors, was evaluated for its potential to occur in the Project vicinity. Special-status species include all species listed under the state and federal Endangered Species Acts (ESA); species that are proposed for those listings; Federal Special Concern Species; California Special Concern Species; Fully Protected Species under the California Fish and Game Code, and plant species listed in the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Plants of California*.

Special-status species database queries were conducted within the La Cima, Avenal, Huron, Guijarral Hills, Kettleman City, Westhaven, Kettleman Plain, Garza Peak and Los Viejos USGS 7.5-minute topographic quadrangles. Table 6.6-1 lists the special-status species that could potentially occur on or within 1 mile of the Site or within 1,000 feet of Project linear corridors. Most of the CNDDB records for these species involve sightings in the natural vegetation communities west of Interstate 5. Similar natural vegetation communities do not occur in the Project vicinity. The following paragraphs describe special status species that have a moderate or higher potential to occur within 1 mile of the Site or within 1,000 feet of Project linear corridors.

# TABLE 6.6-1

## SPECIAL STATUS SPECIES(1) POTENTIALLY OCCURRING WITHIN 1 MILE OF THE PROJECT SITE OR WITHIN 1,000 FEET OF LINEAR CORRIDORS



| COMMON NAME | SCIENTIFIC NAME | STATUS(2) FED/CA/ OTHER | HABITAT AND SEASONAL DISTRIBUTION IN CALIFORNIA | LIKELIHOOD OF OCCURRENCE WITHIN THE SITE VICINITY(3) |
|---|---|---|---|---|
| Pale-Yellow Layia | *Layia heterotricha* | FSC/none/1B | Found in pinyon juniper woodlands and San Joaquin Valley and Foothill Grasslands. | **Low.** Could occur within the maintained grasslands adjacent to the San Luis Canal. However, its occurrence is unlikely, given the level of disturbance within these grasslands over the past 50 years and the lack of nearby populations. Closest occurrence (CNDDB) to the Site is 8 miles southwest in the Kettleman Plain and Kreyenhagen Hills, west of Interstate 5. |
| San Joaquin Woollythreads | *Monolopia congdonii* | FE/none/1B | Endemic to San Joaquin Valley. Found in alkaline or loamy plains, sandy soils and is often associated with chenopod scrub as well as San Joaquin Valley and Foothill Grasslands. | **Low.** Could occur within the maintained grasslands adjacent to the San Luis Canal. However, its occurrence is unlikely, given the level of disturbance within these grasslands over the past 50 years and the lack of nearby populations. Closest occurrence (CNDDB) to the Site is 3 miles southwest in the Kettleman Hills, west of Interstate 5. |
| California Jewel Flower | *Caulanthus californicus* | FE/SE/1B | Found in various habitats of the Central Valley and Carrizo Plain. Usually grows within chenopod scrub, San Joaquin Valley and foothill grasslands, and pinyon juniper woodlands. | **Low.** Could occur within the maintained grasslands adjacent to the San Luis Canal. However, its occurrence is unlikely, given the level of human disturbance within these grasslands over the past 50 years and the lack of nearby populations. Closest historic (probably extirpated) occurrence (CNDDB) to the Site is 8.5 miles southwest on the east slope of the Diablo Range, west of Interstate 5. |
| San Joaquin Dune Beetle | *Coelus gracilis* | FSC/none/ none | Inhabits fossil dunes along the western edge of the San Joaquin Valley. | **Very low.** Since there are no dunes or dune-like habitats within the Project Area, it is unlikely this species would occur within 1 mile of the Project site. Closest occurrence (CNDDB) to the Site is 9 miles southeast near Los Medanos. |

# TABLE 6.6-1

## SPECIAL STATUS SPECIES(1) POTENTIALLY OCCURRING WITHIN 1 MILE OF THE PROJECT SITE OR WITHIN 1,000 FEET OF LINEAR CORRIDORS
**(Continued)**



| COMMON NAME | SCIENTIFIC NAME | STATUS(2) FED/CA/ OTHER | HABITAT AND SEASONAL DISTRIBUTION IN CALIFORNIA | LIKELIHOOD OF OCCURRENCE WITHIN THE SITE VICINITY(3) |
|---|---|---|---|---|
| Blunt-Nosed Leopard Lizard | *Gambelia sila* | FE/SE/CFP | Found throughout scattered locations within the San Joaquin Valley in sparsely vegetated alkali and desert scrub habitats. They do not excavate their own burrows, but rather seek cover in mammal burrows or under shrubs or other structures, such as fence posts. | **Low.** Could potentially inhabit the maintained grasslands that are adjacent to the San Luis Canal, using available small mammal burrows as cover. However, its occurrence is unlikely given that these maintained grasslands lack the components of its typical habitat associations of sparsely vegetated alkali and desert scrub communities. Closest occurrence (CNDDB) to the Site is 3.5 miles northwest, near the Polvadero Gap and west of Interstate 5. |
| Double-Crested Cormorant | *Phalacrocorax auritus* | none/CSC/ none | Found throughout most of the state nesting on coastal cliffs, offshore islands, and along lake margins. Found foraging along the entire coast of California as well as in lacustrine and riverine habitats throughout the Central Valley. | **Observed.** No nesting habitat within 1 mile of the Site, but several individuals were observed foraging within the San Luis Canal near the Site. No occurrences (CNDDB) within 10 miles of the Site. |
| Cooper's Hawk | *Accipiter cooperi* | none/CSC/ none | Breeding resident throughout most of the wooded portion of the state. Usually inhabits open, interrupted or marginal woodlands. Seldom found in areas without dense tree stands of patchy woodland habitat. Nest sites occur in riparian growths of deciduous trees, as in canyon bottoms on river flood plains. | **Observed.** No nesting habitat within 1 mile of the Site, but one migrating individual was observed flying over the Site. The maintained grasslands and croplands in the Project area could provide limited seasonal and opportunistic foraging opportunities for this species. No occurrences (CNDDB) within 10 miles of the Site. |

# TABLE 6.6-1

## SPECIAL STATUS SPECIES(1) POTENTIALLY OCCURRING WITHIN 1 MILE OF THE PROJECT SITE OR WITHIN 1,000 FEET OF LINEAR CORRIDORS
**(Continued)**



| COMMON NAME | SCIENTIFIC NAME | STATUS(2) FED/CA/ OTHER | HABITAT AND SEASONAL DISTRIBUTION IN CALIFORNIA | LIKELIHOOD OF OCCURRENCE WITHIN THE SITE VICINITY(3) |
|---|---|---|---|---|
| Western Burrowing Owl | *Athene cunicularia hypugea* | FSC/CSC/ none | Nests and forages throughout the state in open, dry, annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. | **Observed (burrows).** Nesting habitat exists within the maintained grasslands that are adjacent to the San Luis Canal within 1 mile of the Site. Foraging habitat exists within the maintained grasslands. Croplands and orchards also provide limited foraging opportunity. Two burrows were located within the maintained grasslands on the opposite (east) side of the canal within 0.5 mile of the Site. Closest occurrence (CNDDB) to the Project Site is 7 miles south, near Kettleman Plain. |
| Loggerhead Shrike | *Lanius ludovicianus* | FSC/CSC/ none | Resident in the lowlands and foothills throughout the state. Usually occupies open habitats with scattered shrubs, trees, posts, fences, utility lines or other perches. Rarely found in heavily urbanized areas, but often found in open cropland. | **Observed.** Nesting habitat exists within established orchards and within willow trees growing in artificial water storage ponds. Foraging habitat exists within the maintained grasslands within the canal right-of-way. The croplands and orchards/vineyards also provide limited foraging opportunity. Two individuals were observed perching on a fence within 1 mile of the Site. No occurrences (CNDDB) within 10 miles of the Site. |
| San Joaquin Antelope Squirrel | *Ammospermophilus nelsoni* | FSC/ST/none | Found in the western San Joaquin Valley on dry, sparsely vegetated loam soils with widely scattered shrubs, forbs and grasses in broken terrain with gullies and washes. Usually dig their own burrows or use the burrows of kangaroo rats. | **Low to Moderate.** Appropriate-sized small mammal burrows and suitable loose-textured soils occur in maintained grasslands within the canal right-of-way, and in agricultural drainage ditch and water storage pond berms. Though disturbed and less than optimal, the maintained grasslands could provide the elements necessary for occurrence of this species. Closest occurrence (CNDDB) to the Site is 5.5 miles southwest in the Kettleman Hills, west of Interstate 5. |

# TABLE 6.6-1

## SPECIAL STATUS SPECIES(1) POTENTIALLY OCCURRING WITHIN 1 MILE OF THE PROJECT SITE OR WITHIN 1,000 FEET OF LINEAR CORRIDORS
**(Continued)**



| COMMON NAME | SCIENTIFIC NAME | STATUS(2) FED/CA/ OTHER | HABITAT AND SEASONAL DISTRIBUTION IN CALIFORNIA | LIKELIHOOD OF OCCURRENCE WITHIN THE SITE VICINITY(3) |
|---|---|---|---|---|
| San Joaquin Pocket Mouse | *Perognathus inornatus inornatus* | FSC/none/ none | Typically found in grasslands and blue oak savannahs associated with friable soils in the Central and Salinas valleys. | **Low to Moderate.** Appropriate-size small-mammal burrows and suitable loose-textured soils occur within 1 mile of the Site in the maintained grasslands within the canal right-of-way and in the agricultural drainage ditch and water storage pond berms. Although these habitats are disturbed, they contain suitable habitat elements necessary for occurrence of this species (cover, forage). Closest occurrence (CNDDB) to the Site is approximately 1 mile south of the Kettleman Compressor Station, in the Kettleman Hills, west of Interstate 5. |
| Short-Nosed Kangaroo Rat | *Dipodomys nitratoides brevinasus* | FSC/CSC/ none | Typically found on the western side of the San Joaquin Valley on flat to gently sloping terrain within grassland and desert scrub communities that are associated with highly alkaline friable soils and dominated by species such as saltbush (*Atriplex* sp.). | **Low.** Appropriate-size small-mammal burrows and suitable loose-textured soils occur within 1 mile of the Site in the maintained grasslands within the canal right-of-way in the agricultural drainage ditch and water storage pond berms. However, its occurrence is unlikely given that these features lack the components of its typical habitat associations of highly alkaline soils, desert scrub and saltbush-dominated communities. Closest occurrence (SJVRP) to the Site is 5 miles south in the Kettleman Hills, west of Interstate 5. |
| San Joaquin Kit Fox (SJKF) | *Vulpes macrotis mutica* | FE/ST/none | Typically occupies annual grasslands or grassy open stages within scattered shrubby vegetation throughout the semi-arid habitats of the San Joaquin Valley. | **Low.** There are no known sitings in the vicinity of the Site and no sign observed in conjunction with surveys conducted for the Project. The farmer who has worked the site and surrounding area for more than 50 years reports to have not seen the kit fox in the vicinity. |

# TABLE 6.6-1

## SPECIAL STATUS SPECIES(1) POTENTIALLY OCCURRING WITHIN 1 MILE OF THE PROJECT SITE OR WITHIN 1,000 FEET OF LINEAR CORRIDORS (Continued)



| COMMON NAME | SCIENTIFIC NAME | STATUS(2) FED/CA/ OTHER | HABITAT AND SEASONAL DISTRIBUTION IN CALIFORNIA | LIKELIHOOD OF OCCURRENCE WITHIN THE SITE VICINITY(3) |
|---|---|---|---|---|
| San Joaquin Kit Fox (SJKF) (Continued) | *Vulpes macrotis mutica* (Continued) | FE/ST/none (Continued) | Requires loose-textured soils for burrowing and a suitable prey base. Have also been found within the croplands of the valley floor. | Individuals have been observed in croplands and orchards in other regions, so there is some chance of low and limited use of the Project vicinity by this species. Closest occurrence to the Site is 3 miles southwest in the Kettleman Hills, west of Interstate 5. The longstanding existence of the Interstate, with physical barriers (fencing, etc.), extensive traffic and human presence, discourage this species from moving between the Kettleman Hills and the agricultural lands of the valley floor. Given these considerations, the likelihood of occurrence for this species within 1 mile of the Site is estimated to be low. |

31161/AFC Avenal (Tbls&Figs Sec 6.6) (10/4//01/jb)

NOTES:

(1) Special Status Species: Animals that are included in this table have a ranking of CSC or higher. Special-status plants that are included in this table have a ranking of 1B or higher.

(2) Status:

Federal:

FE Federally listed as Endangered
FT Federally listed as Threatened
FC Federal Candidate Species
FSC U.S. Fish and Wildlife Service designated "Species of Concern"

State:

SE State listed as Endangered
ST State listed as Threatened
CFP California Department of Fish and Game designated "Fully Protected" or "Protected" - Permit required for "take."
CSC California Department of Fish and Game designated "Species of Special Concern."

Other:

1B California Native Plant Society (CNPS) Ranking. Defined as plants that are rare, threatened or endangered in California and elsewhere.

(3) Occurrence Sources/Site Vicinity: CDFG California Natural Diversity Database (CNDDB), Recovery Plan for Upland Species of the San Joaquin Valley (SJVRP), Department of Water Resources (DWR). Site vicinity includes the Site, lands within 1 mile of the Site, Project linear corridors and lands within 1,000 feet of Project linear corridors.

Descriptions of other species listed in Table 6.6-1 that have low potential for occurrence in the Project area, and maps of CNDDB special status occurrences, are provided in Appendix 6.6-1.

**Double-Crested Cormorant** (*Phalacrocorax auritus*) is categorized as a California Special Concern Species. Double-crested cormorants are found throughout most of the state, nesting on coastal cliffs, offshore islands and along lake margins (in stands of dead trees or snags). This species feeds mainly on fish, crustaceans and amphibians, and can be found foraging along the entire coast of California, as well as in lacustrine and riverine habitats in the Central Valley. There are no nesting records of this species documented in California Natural Diversity Database (CNDDB) within the region, and there is no suitable nesting habitat for this bird on or within 1 mile of the Site (CDFG, 2001). However, the San Luis Canal near the Site provides suitable foraging habitat for this species. Double-crested cormorants were observed foraging in the San Luis Canal within 1 mile of the Site during the March 27-28, 2001, field survey of the Site.

**Cooper's Hawk** (*Accipiter cooperi*) is categorized as a California Special Concern Species. This species is a resident throughout most of the wooded portion of the state, inhabiting open, interrupted, or marginal woodlands. Nest sites occur in riparian stands of deciduous trees, typically in canyon bottoms or on river floodplains. Although Cooper's hawk is seldom found in areas without dense tree stands or patchy woodland habitat, an individual was observed soaring over the maintained grasslands that are adjacent to the San Luis Canal. However, due to the lack of nesting habitat for this species on or within 1 mile of the Site, this individual was most likely a seasonal migrant that was moving through the area. There are no records of this species documented in the CNDDB within the region (CDFG, 2001). However, the presence of birds, reptiles and small mammals within the maintained grasslands, croplands and orchards could provide limited seasonal and opportunistic foraging opportunities for individuals of this species that are moving through the San Joaquin Valley.

**Western Burrowing Owl** (*Athene cunicularia hypugea*) is categorized as a Federal and California Special Concern Species. It is found in open, dry, annual or perennial grasslands, deserts and scrublands that are characterized by low-growing vegetation. Burrowing owls are subterranean nesters that are dependent on burrowing mammals (e.g., California ground squirrel) for their burrows. There is one extant occurrence for this species within the region, approximately 7 miles south of the Site in the foothills on the east side of Kettleman Plain, west of Interstate 5 (CDFG, 2001). Two burrowing owl burrows were observed approximately 0.3 and 0.4 mile from the Site, respectively, during the March 27-28 field survey. The burrows will not be affected by the Project. They were located on the opposite side of the canal from the Site, within the maintained grassland

of the canal right-of-way. The maintained grasslands within the canal right-of-way provide suitable nesting and foraging habitat for this species. Croplands and orchards within 1 mile of the Site may provide limited foraging opportunities for this species.

**Loggerhead Shrike** (*Lanius ludovicianus*) is categorized as a Federal and California Special Concern Species. This species is a resident in the lowlands and foothills throughout California. It prefers open habitats with scattered shrubs, trees, posts, fences, utility lines or other perches. Loggerhead shrikes occur rarely in heavily urbanized areas, but are often found in open cropland. There are no records of this species documented in the CNDDB within the region (CDFG, 2001). However, potential nesting habitat exists within 1 mile of the Site in mature orchards and in the willow trees that are growing in the artificial water storage ponds. Two loggerhead shrikes were observed perching on a fence at a pump station on the west side of the San Luis Canal, about 1 mile north of the Site during the March 27-28 field survey. Suitable foraging habitat for this species exists within the maintained grasslands within the canal right-of-way. The croplands and orchards/vineyards also may provide limited foraging opportunities.

**San Joaquin Antelope Squirrel** (*Ammospermophilus nelsoni*) is listed as a California Threatened and Federal Special Concern Species. This species is found in the western San Joaquin Valley on dry, sparsely vegetated loam soils from elevations of 200 to 1,200 feet above mean sea level. San Joaquin antelope squirrels dig their burrows or use the burrows of kangaroo rats. They typically occur in association with widely scattered shrubs, forbs and grasses in broken terrain with gullies and washes. No San Joaquin antelope squirrels or their sign were observed during the March 27-28 field survey of the Site. There are four documented occurrences of this species within the region (CDFG, 2001; USFWS, 1998). The closest extant occurrence is approximately 5.5 miles southwest of the Site in the Kettleman Hills west of Interstate 5 (CDFG 2001). Appropriate-size small mammal burrows associated with loose-textured soils were located within the maintained grasslands within the canal right-of-way, as well as within the dry perimeter of artificial water storage ponds and agricultural drainage ditch berms that occur outside the Site within the Project vicinity. Though disturbed and less than optimal, the maintained grasslands within 1 mile of the Site could provide the elements that are necessary for occurrence of this species (i.e., forage, cover).

**San Joaquin Pocket Mouse** (*Perognathus inornatus inornatus*) is characterized as a Federal Special Concern Species. This species is typically found in grasslands and blue oak savannahs associated with friable soils in the Central and Salinas valleys. No San Joaquin pocket mice or their sign were observed during the March 27-28 field survey of the Site. There are six documented occurrences of this species within the region (CDFG, 2001). The closest extant occurrence is

approximately 2 miles southwest of the Site, west of Interstate 5 (CDFG, 2001). Appropriate-size small-mammal burrows associated with loose-textured soils were observed within the maintained grasslands within the canal right-of-way, as well as within the dry perimeter of water storage ponds and agricultural drainage ditch berms that occur outside the Site within the Project Vicinity. Though disturbed and less than optimal, it is possible that the maintained grasslands within 1 mile of the Site could provide the elements necessary for occurrence of this species (i.e., forage, cover).

#### 6.6.1.4 Site Vicinity

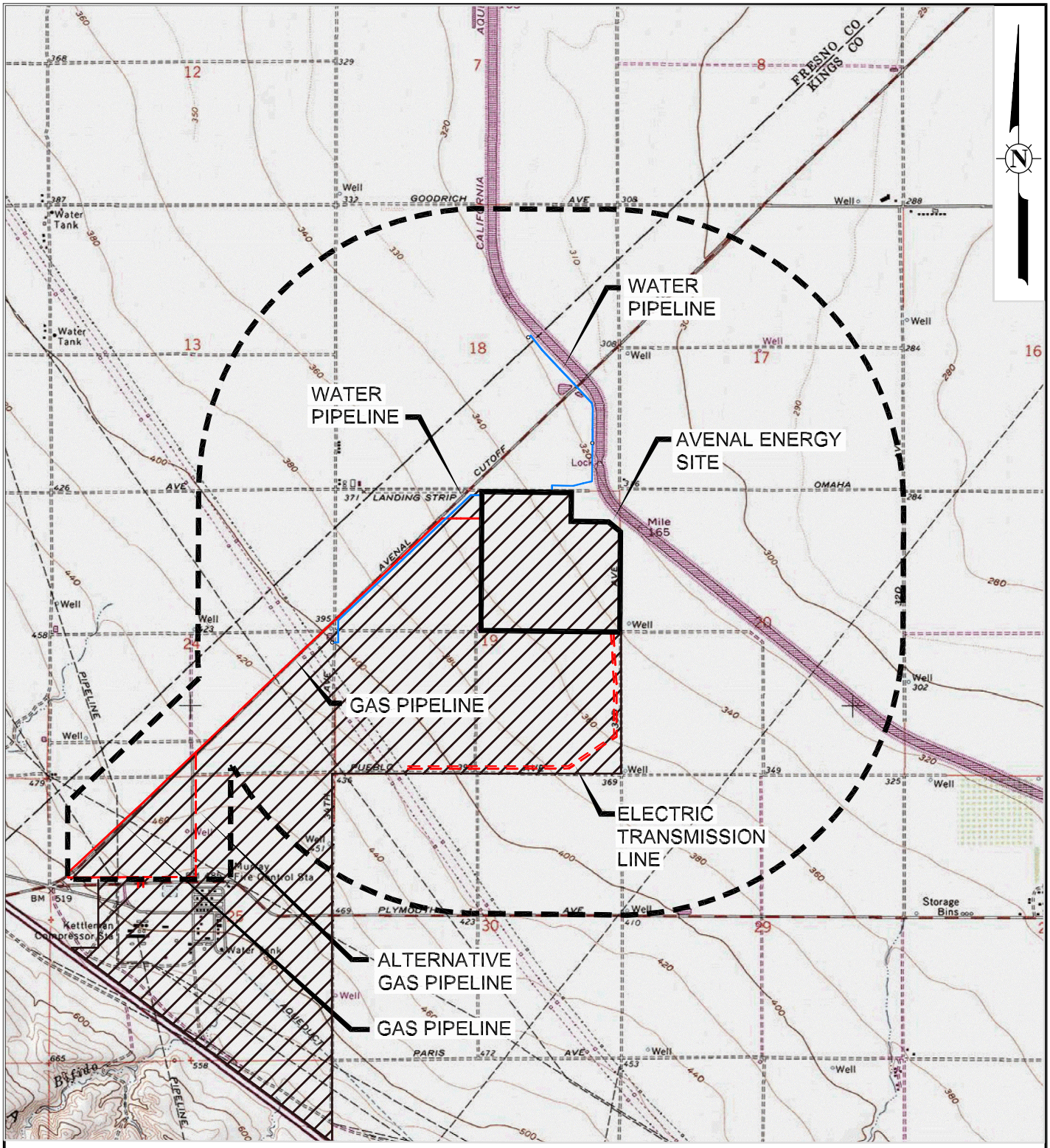
The biological resources evaluated for the Project include vegetation communities, plants, wildlife and wildlife habitats. Regional biological resources described in Section 6.6.1.2 are based on published and unpublished literature reviews of the USFWS, CDFG and DWR databases, and other sources. A more intensive evaluation, including field surveys, was conducted for the area within 1 mile of the Site and within 1,000 feet of Project linear corridors. The Project linear facilities include the natural gas pipeline, electric transmission line and water line routes (see Figure 6.6-2). The area within 1 mile of the Site and within 1,000 feet of Project linear facilities is referred to herein as the Site "vicinity."

##### 6.6.1.4.1 Field Surveys

Field surveys to identify biological resources in the Site vicinity focused on locating special-status plant and animal species, as well as their habitats and sign. A reconnaissance-level survey of the vicinity was conducted on March 27-28, 2001. These studies included:

- Meandering transects within the maintained grasslands that occur within the canal right-of-way. This habitat was a focus of fieldwork because the remaining land in the Site vicinity is developed with intensive and frequent disturbance related to agriculture or infrastructure (e.g., roads).
- Driving and spot-checking the paved and dirt roads through the active cropland, orchards and vineyards. This method was chosen over walking linear transects due to the homogenous nature, open visibility and lack of natural habitat within these areas. Spot-checking occurred wherever there were visible changes in habitat, such as at drainage ditches, water storage ponds and the San Luis Canal.
- Documenting and recording biological resources in standard field notebooks immediately upon observation. Photographs of biological resources and habitat communities, as well as the Site, Project utility corridors and Project vicinity, were taken at several vantage points throughout the Site vicinity.

00-311AFC-28.DWG REV.10/08/01




LEGEND:

- AVENAL ENERGY SITE
- SURVEY AREA
- ELECTRIC LINE
- GAS LINE
- WATER LINE
- INDUSTRIAL ZONE (CITY OF AVENAL GENERAL PLAN AND ZONING ORDINANCE)

0 1/2 1 MILE

SCALE

REFERENCE:

Printed from TOPO! © 2000, National Geographic Holdings WWW.TOPO.COM) and EIP Associates, EIP GIS Program, June 2001

# BIOLOGY FIELD SURVEY AREA

DUKE ENERGY AVENAL, LLC

AVENAL ENERGY | FIGURE 6.6-2

A follow-up site visit that was attended by representatives from the USFWS and CDFG occurred on May 16, 2001. This site visit consisted of driving and spot-checking the paved and dirt roads through the active agricultural areas and along the San Luis Canal. The entire 148-acre Site, adjacent areas and Project linear routes were observed during this visit. Spot-checks were conducted at the maintained grasslands adjacent to the San Luis Canal, as well as at isolated pond and ditch locations that contained grass or other nonagricultural vegetation.

As shown in Figure 6.6-3, the Site and surrounding lands are actively plowed and planted.

6.6.1.4.2 Site and Linear Corridors

The Site is located entirely within an agricultural field that has been cleared of native vegetation for approximately 50 years. The field is currently used to grow cotton. The entire site and adjacent lands are highly disturbed from the plowing, disking, irrigating, planting and harvesting of normal agricultural operations. Adjacent lands to the north, west and south are newly planted (2001) orchards, and adjacent lands to the east are occupied by row crops and the City of Avenal water treatment plant.

The water pipelines for the Site will be underground at the edges of agricultural fields in areas that contain bare ground or agricultural vegetation. The water pipeline corridor north of the Site is designed to avoid the maintained grasslands that occur adjacent to the San Luis Canal. The corridor for the electrical transmission line tie-in is located entirely within newly planted orchards. The gas line corridor crosses a newly planted orchard adjacent to the Site and then follows Avenal Cutoff Road and Plymouth Avenue to the Kettleman compressor station. As for the Site, project linear facilities will occur on lands that, due to agricultural use (e.g., with frequent ripping, tilling, planting, harvesting), do not provide wildlife habitat except for limited foraging opportunities (see Figure 6.6-3).

6.6.1.4.3 Vicinity Vegetation Communities

Table 6.6-2 presents a list of the plant and animal species that were observed in the Site vicinity during the March 27-28 reconnaissance survey, and the habitats in which they were observed. Approximately 96.8 percent of the Project vicinity consist of agricultural land, with cropland, orchard and vineyard vegetation communities. Figure 6.6-4 shows the distribution of these communities in the vicinity. A 1:6,000 scale map of the vegetation communities is provided in Appendix 6.6-1. Each of the vegetation communities is described below.

Cropland comprises the majority of the Project vicinity. Cropland comprises the entire Site and adjacent lands to the east. Croplands are subject to frequent intensive ground disturbance during ripping, plowing, planting, harvesting and irrigating, and other farm work.

Trees in established orchards range in height from 15 to 30 feet. Established orchards in the vicinity provide nesting habitat for avian species, but limited habitat for terrestrial species as the orchards may be managed to limit and periodically remove understory growth. Orchards adjacent to the Site contain new trees that range in height between 3 and 5 feet. The new orchards have no understory except for row crops that have been planted in some areas.

Vineyards are composed of single species planted in rows, usually supported on wood and wire trellises. Between rows of vines, grasses and other herbaceous plants may be planted or allowed to grow as a cover crop to control erosion. The closest vineyard to the Site is in the southwest quarter section of Section 17, approximately 500 feet northeast of the Site, on the other side of the canal.

The primary nonagricultural vegetation community, comprising approximately 1 percent of the Project vicinity, is maintained grasslands. This community occurs within swaths adjacent to each side of the San Luis Canal. The swaths vary in width from 20 to 400 feet, averaging 80 feet in most places. The maintained grasslands consist of annual grasses that generally occur from the top of the outside levee slope to the outside edge of the canal right-of-way. The DWR conducts routine maintenance within the grasslands, such as mowing and occasional pesticide applications (Vance, 2001). Project construction and operations are designed to stay outside of the grasslands.

Aquatic vegetation occurs in five locations in the Site vicinity. This vegetation occurs where human activity has resulted in the creation of artificial barriers and surface grades that promote ponding of water (e.g., where the agricultural fields drain against the intersection of the fill embankments for the San Luis Canal and Avenal Cutoff Road, and where ponds for water storage have been constructed by farmers and by the City water treatment plant). Aquatic vegetation species that were observed in the pond areas in the Project vicinity include willow, curly dock, broadleaf cattail and western common tule. All of these aquatic features are the result of human intervention and are subject to anthropogenic disturbances such as plowing, pesticide applications, garbage disposal and

**GROUND PHOTOGRAPH OF AVENAL ENERGY SITE**

**DUKE ENERGY AVENAL, LLC**

***AVENAL ENERGY*** | **FIGURE 6.6-3**

## TABLE 6.6-2

## PLANT AND WILDLIFE SPECIES OBSERVED DURING MARCH 2001 SURVEYS OF THE PROJECT SITE VICINITY(1)



| COMMON NAME | SCIENTIFIC NAME | HABITAT |
|---|---|---|
| **PLANTS** | | |
| Wild Oats | *Avena fatua* | Annual Grassland |
| Soft Chess | *Bromus mollis* | Annual Grassland |
| Ripgut Brome | *Bromus diandrus* | Annual Grassland |
| Foxtail Barley | *Hordeum murinum* | Annual Grassland |
| Italian Ryegrass | *Lolium multiflorum* | Annual Grassland |
| Annual Blue Grass | *Poa annua* | Annual Grassland |
| Lupine | *Lupinus albifrons* | Annual Grassland |
| Menzie's Fiddleneck | *Amsinckia menziesii* | Annual Grassland |
| Red-Stemmed Filaree | *Erodeum cicutarium* | Annual Grassland |
| Bull Thistle | *Cirsium vulgare* | Annual Grassland |
| Purple Owl's Clover | *Castilleja exserta ssp. exserta* | Annual Grassland |
| Short-podded Lotus | *Lotus humistratus* | Annual Grassland |
| Shepard's Purse | *Capsella bursa-pastoris* | Annual Grassland |
| Hairy Toothwort | *Cardamine hirsuta* | Annual Grassland |
| Wormseed Mustard | *Erysimum cheiranthoides* | Annual Grassland |
| Sunflower | *Helianthus annuus* | Aquatic Feature |
| Broadleaf Cattail | *Typha latifolia* | Aquatic Feature |
| Western Common Tule | *Scirpus acutus var. occidentalis* | Aquatic Feature |
| Curly Dock | *Rumex crispus* | Aquatic Feature |
| Willow | *Salix sp.* | Aquatic Feature |
| **INVERTEBRATES** | | |
| Monarch Butterfly | *Danaus plexippus* | Annual Grassland (migrating) |
| **AMPHIBIANS** | | |
| Bullfrog | *Rana catesbeiana* | Aquatic Feature |
| Pacific Tree Frog | *Hyla regilla* | Aquatic Feature |
| **REPTILES** | | |
| Gopher Snake | *Pituophis melanoeleucus* | Annual Grassland |
| Side-Blotched Lizard | *Uta stansburiana* | Annual Grassland |
| **BIRDS** | | |
| Clark's Grebe | *Aechmophorus clarkii* | San Luis Canal |
| Double-crested Cormorant | *Phalacrocorax auritus* | San Luis Canal |
| Mallard | *Anas platyrhynchos* | San Luis Canal |
| Ruddy Duck | *Oxyura jamaicensis* | San Luis Canal |

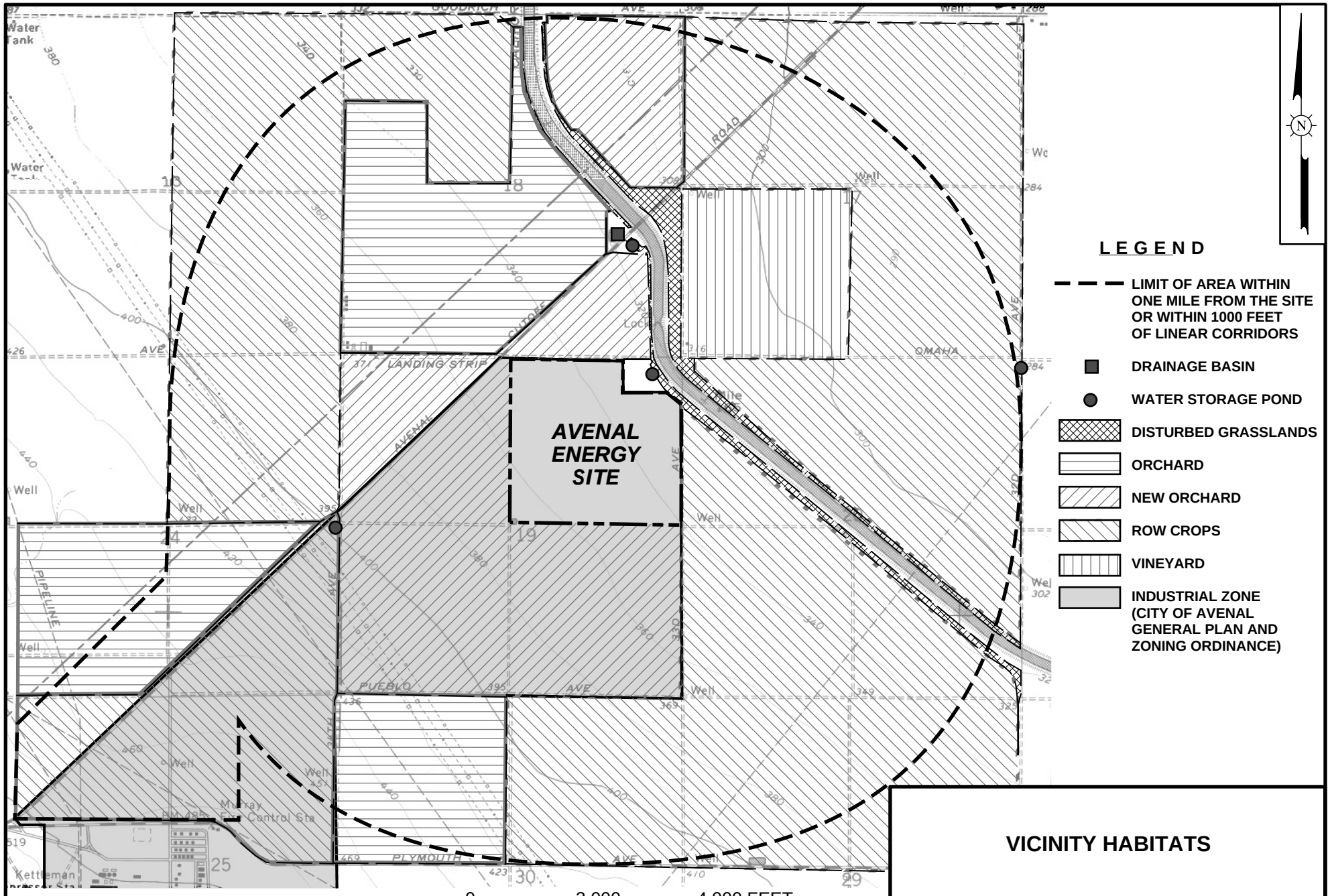
## TABLE 6.6-2

## PLANT AND WILDLIFE SPECIES OBSERVED DURING MARCH 2001 SURVEYS OF THE PROJECT SITE VICINITY(1)



| COMMON NAME | SCIENTIFIC NAME | HABITAT |
|---|---|---|
| **BIRDS (Continued)** | | |
| American Coot | *Fulica americana* | San Luis Canal |
| Killdeer | *Charadrius vociferous* | Cropland |
| Greater Yellowlegs | *Tringa melanoleuca* | Aquatic Feature |
| Cooper's Hawk | *Accipiter cooperii* | Cropland (soaring overhead) |
| American Kestrel | *Falco sparverius* | Cropland |
| Rock Dove | *Columba livia* | Cropland/Annual Grassland |
| Mourning Dove | *Zenaida macroura* | Cropland/Annual Grassland |
| Western Kingbird | *Tyrannus verticalis* | Annual Grassland |
| Barn Swallow | *Hirundo rustica* | Cropland |
| Cliff Swallow | *Hirundo pyrrhononeta* | San Luis Canal (nesting under bridge) |
| Common Raven | *Corvus corax* | Cropland |
| Loggerhead Shrike | *Lanius ludovicianus* | Annual Grassland |
| Northern Mockingbird | *Mimus polyglottos* | Annual Grassland |
| American Pipit | *Anthus rubescens* | San Luis Canal (water's edge) |
| Song Sparrow | *Melospiza melodia* | Annual Grassland |
| Lark Sparrow | Chondestes grammacus | Annual Grassland |
| White-crowned Sparrow | *Zonotrichia leucophrys* | Annual Grassland |
| Western Meadowlark | *Sturnella neglecta* | Annual Grassland |
| Red-Winged Blackbird | Agelaius phoenicues | Aquatic Feature |
| Brewer's Blackbird | *Euphagus cyanocephalus* | Annual Grassland |
| House Sparrow | *Passer domesticus* | Annual Grassland |
| Lesser Gold Finch | *Cardeulis psaltria* | Annual Grassland |
| House Finch | *Carpodacus mexicanus* | Annual Grassland |
| **MAMMALS** | | |
| Coyote | *Canis latrans* | Annual Grassland (skeleton) |
| California Ground Squirrel | *Spermophilus beecheyi* | Annual Grassland |
| Pocket Gopher | *Thomomys bottae* | Annual Grassland |
| Desert Cottontail | *Sylvilagus auduboni* | Annual Grassland |

(1) Site Vicinity: Includes all areas within 1 mile of the Site and 1,000 feet of the water lines, electric transmission lines and natural gas pipelines.




REFERENCE: EIP ASSOCIATES, 1-MILE BUFFER, AND GIS PROGRAM JULY 13, 2001.

## VICINITY HABITATS

DUKE ENERGY AVENAL, LLC

***AVENAL ENERGY*** | **FIGURE 6.6-4**

variable water supply. There are no aquatic features on the Site or in areas that would be disturbed by the gas line or electrical transmission line tie-ins. The water pipeline routes are designed to avoid disturbance to several of the features that occur nearby.

The San Luis Canal is completely man-made and devoid of vegetation. The San Luis Canal supports habitat for a variety of fish and birds.

#### 6.6.1.4.4 Vicinity Wildlife

Because the Project vicinity is primarily agricultural, the vegetation communities contain limited and marginally suitable wildlife habitats. A major reason for this is that the agricultural lands in the vicinity are subject to virtually 100 percent intensive surface disturbance activities on a regular and frequent basis. Lands in the vicinity have been farmed for approximately 50 years. The habitats that occur in the Project vicinity are described below (see Figure 6.6-4). The habitat map in Figure 6.6-4 is 1:24,000 scale and Appendix 6.6-1 provides the same map at 1:18,000 scale. A 1:6,000 scale map is not provided because the agricultural character of the area results in very few habitat types and, consequently, the habitats are easily depicted at the map scales provided.

Croplands, orchards and vineyards that are located in the vicinity are devoid of natural vegetation. The agricultural fields, trees and nearby high voltage transmission towers and poles provide low-quality foraging and nesting habitat for common bird species such as mourning dove, western meadowlark, killdeer, rock dove and common raven. Small birds and mammals feed on the seeds, fruits and insects within the fields. Smaller wildlife species provide subsistence for predators such as coyotes and raptors. Common ravens were observed nesting within the structural framework of transmission towers and power poles within the Project vicinity. Mammal burrows were observed within agricultural soil berms that occur in areas outside the Site but within the Site vicinity.

Wildlife inhabiting the maintained grasslands within the canal right-of-way includes burrowing mammals such as California ground squirrel, Botta's pocket gopher and desert cottontail, which are prey for coyotes, raptors and other predators. The grasslands also provide foraging habitat for seed-eating birds such as mourning dove, western meadowlark, house finch, song sparrow and white-crowned sparrow; for insect eaters such as northern mockingbird, loggerhead shrike and western kingbird; and for raptors such as red-tailed hawk and burrowing owl. Reptiles such as gopher snake and side-blotched lizard also were observed within the grasslands. Numerous ground burrows and animal trails were observed within the grasslands, with burrow entrances ranging from 2 to 15 inches in diameter. Scat and bones also were found within the maintained grasslands. One of the burrows

located within the grassland swath had a pile of scat on the ramp leading to the burrow entrance. The scat was approximately 105 mm in length and 22 mm in diameter, which is consistent with the characteristics of coyote scat.

Aquatic features that occur in the vicinity vary between areas that are typically dry, but trap rainwater runoff for short durations after infrequent large storms, to irrigation ditches and artificial water storage ponds that contain water or moisture over more extended periods. The vegetation, standing water and habitat structure within some of these locales provide nesting and foraging habitat for birds such as red-winged blackbird, western kingbird and greater yellowlegs. Amphibians such as bullfrog and Pacific tree frog also were observed. Small-mammal burrows were observed within water storage pond berms in areas outside the Site boundary but within the Site vicinity. The irrigation ditches and rainwater trap areas contain less moisture and vegetation than the artificial water storage pond areas and provide only marginal aquatic habitat. No aquatic features in the Project vicinity are located either on the Site, or along the routes of the gas line or electrical transmission line tie-ins. The water pipeline routes are designed to avoid disturbance to several of the features that occur nearby.

The San Luis Canal near the Site provides foraging habitat for a variety of aquatic birds such as double-crested cormorants, grebes and waterfowl. The San Luis Canal also provides habitat for fish. Birds such as American pipit and cliff swallow were observed feeding on insects over and adjacent to the San Luis Canal. The cliff swallows also were nesting under the bridge and pipeline structures that cross over the canal.

#### 6.6.1.4.5 Special-Status Species With the Potential to Occur in the Project Vicinity

Plants

No known occurrences of special-status plant species are recorded in the Project vicinity in the CNDDB, USFWS or DWR databases. Furthermore, no special-status plant species were observed in the vicinity during the Site reconnaissance or follow-up visit. The closest CNDDB occurrences of special-status plant species to the Site are San Joaquin woollythreads (3 miles west) and pale-yellow layia (8 miles southwest). Both of these occurrences are located outside of intensive agriculture areas and on the west side of Interstate 5 in the Kettleman Hills and Kettleman Plain.

Wildlife

No known occurrences of special-status wildlife species are recorded in the Project vicinity in the CNDDB, USFWS or DWR databases. Four special-status wildlife species were observed in the Project vicinity during the March 27-28 survey: loggerhead shrike, Cooper's hawk, double-crested cormorant and western burrowing owl (burrows only). Other than these species, the closest occurrences of special-status wildlife species to the Site include San Joaquin pocket mouse (2 miles southwest [CDFG, 2001]) and San Joaquin kit fox (3 miles southwest [USFWS, 1998]). These occurrences both are located outside of intensive agriculture areas and on the west side of Interstate 5 in the Kettleman Hills.

The maintained grasslands within the canal right-of-way occur where the surface has been intensively disturbed by historic agricultural operations and San Luis Canal construction, as well as ongoing periodic disturbance due to DWR maintenance activities, such as mowing and pesticide applications. These disturbances limit the quality of habitat, but do not preclude wildlife use. The DWR maintenance protocols are designed to avoid or minimize impacts to wildlife that use the grasslands. DWR adheres to maintenance guidelines, such as mowing outside of the nesting season, keeping mower blades at least 6 inches off the ground, and avoiding potential San Joaquin kit fox dens. DWR also sets baited traps for ground squirrels along the San Luis Canal, but the traps are designed to avoid nontarget deaths. Ground squirrel carcasses are removed on a regular basis to avoid bioaccumulation of poisons (Vance, 2001).

Several mammal burrows that could be used by special-status mammals, as well as two burrowing owl burrows, were located within these grasslands during the March 27-28 survey of the Project vicinity. The existence of these burrows is due mainly to the fact that there have been no recent ground-disturbing activities to destroy them. The two burrowing owl burrows are located approximately 0.3 and 0.4 mile from the Site, on the opposite side of the canal, and would not be affected by the Project. The availability of seeds, birds, reptiles and small mammals within the maintained grasslands provides foraging opportunities for special-status birds that were observed on and in the vicinity of the grasslands, such as loggerhead shrike. Two loggerhead shrikes were observed perching on a fence adjacent to the grasslands, approximately 1 mile north of the Site, and a migrating Cooper's hawk was observed soaring over the grasslands during the March 27-28 field survey of the Site. Grasslands do not occur on the Site, or along the routes of the gas line or electrical transmission line tie-ins. The water pipeline routes are designed to avoid disturbance to grasslands that occur nearby.

The croplands, orchards and vineyards that comprise the Site and adjacent lands are highly disturbed from plowing, disking, irrigating, planting and harvesting over the past 50 years. These disturbances essentially preclude the lands that will be disturbed by the Project from being suitable for nesting or denning of special-status wildlife species. No special-status species were observed within this habitat type during the March 27-28 survey of the Project vicinity. The established orchards and landscaping trees, maintained grasslands and small isolated water pond areas, none of which will be disturbed by the Project, could provide habitat for denning or nesting of special-status mammals in areas outside the Site boundary but within the Site vicinity.

Willow trees observed growing in some of the aquatic features in the Project vicinity could provide nesting habitat for loggerhead shrikes and other special-status birds. Due to the presence of nonnative bullfrogs in the perennial features, it is highly unlikely that they would support special-status amphibians. Furthermore, since they appear to be permanently inundated, these features would not support listed vernal pool branchiopod species. No special-status species were observed within this habitat type within the Project vicinity.

The San Luis Canal in the Project vicinity supports a variety of fish and aquatic insect species, and thus provides foraging habitat for many birds and fish. Although only one special-status species, the double-crested cormorant, was observed during the March 27-28 survey, the San Luis Canal could also provide foraging opportunities for other special-status birds.

## 6.6.2 IMPACTS

### 6.6.2.1 Significance Criteria

The following significance criteria are based on the CEQA Guidelines, Appendix G, Environmental Checklist Form (as amended December 1, 1999). Using these criteria, an impact may be considered significant if the Project results in:

- A substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies or regulations, or by the CDFG or USFWS.
- A substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFG or USFWS.
- A substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

- Substantial interference with the movement of any native, resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional or state Habitat Conservation Plan.

6.6.2.2 Construction Impacts

6.6.2.2.1 Special Status Species

Construction and equipment laydown and other temporary (construction) disturbances will encompass approximately 51 acres. The permanent facilities that will be constructed will occupy an additional approximately 25 acres. Linear facility construction will include trenching and backfilling for installation of the gas and water pipelines, as well as for tower construction and conductor installation for the electrical interconnection. Project construction will include dust control. In addition, OSHA and other standards for noise will be followed during construction; they also will protect biologic resources from significant indirect impacts associated with construction noise.

The Project construction water supply will have no impact on biological resources (see Section 6.5 - Water Resources). Storm water discharges from the Site will be in accordance with the State General NPDES Permit, and an SWPPP and BMPs will be implemented to prevent impacts to storm water quality. Wildlife will not be impacted by construction storm water runoff because of these water quality protection measures and because changes in runoff conditions will be minor (see Section 6.5 - Water Resources). No wildlife impacts are expected due to the use or discharge of water during construction.

Construction noise and activity will be short-term, as construction will occur only during working hours, and the construction period is less than 2 years (20 months). Moreover, it is expected that wildlife will become accustomed to the disturbance within a relatively short period of time, similar to their acclimation to ongoing agricultural activity in the Project vicinity. In addition, with the vast expanse of similar agricultural habitat throughout the region and low habitat quality, wildlife that are disturbed by noise and activity from Project construction should easily be able to relocate to adjacent lands. Project impacts on wildlife from construction noise and activities, therefore, are expected to be less than significant.

Project construction will occur in agricultural fields and within City roadways. In addition, no plant species identified as a candidate, sensitive or special status species is known to occur within the Site or within Project linear corridors. Therefore, the Project will not impact any sensitive plant species, natural vegetation or wildlife habitat. The Site and linear corridors where construction will occur are located entirely on developed land consisting of agriculture and various infrastructure improvements (e.g., roads, canal). The closest land that is not extensively disturbed is located approximately 2 miles west of the Site, across Interstate 5, in the Kettleman Hills.

Special status animal species that occur in the vicinity include the double-crested cormorant, Cooper's hawk, western burrowing owl and loggerhead shrike. There are no occurrence records of special status mammals such as San Joaquin antelope squirrel or San Joaquin pocket mouse within the Project vicinity. The maintained grassland areas (see Figure 6.6-4 ) that are within the canal right-of-way and might provide suitable habitat for these species will not be affected by Project construction. All recorded kit fox sitings within the 10-mile radius evaluated for biological resources occurred in the Kettleman Hills, west of Interstate 5, out of developed farmland terrain.

The double-crested cormorant is known to utilize the waters of the San Luis Canal for foraging. However, there are no known nesting sites for this species within the 10-mile radius of biological evaluations for the Project, and there is no suitable nesting habitat within 1 mile of the Site or within 1,000 feet of the linear corridors. The Project will not affect nesting for this species and will not affect foraging within the canal. Therefore, no significant impact on this species is expected.

Because there are no dense tree stands or other favorable habitat, the Site vicinity is not important habitat for the Cooper's hawk. One individual that was observed flying over the Site was likely on a seasonal or local migration. The Project will not affect the ability of this species to migrate through the area. Therefore, no significant impact on this species is expected.

Western burrowing owls are known to use the maintained grassland areas that are within the canal right-of-way in the Project vicinity. Two burrows utilized by this species were observed approximately 0.3 and 0.4 mile from the Site, within the grassland swath on the opposite side (east) of the canal. The grasslands within the canal right-of-way provide suitable nesting and foraging habitat for this species and would not be disturbed by the Project. Considering the limited foraging opportunities and vast expanses of surrounding similar agricultural lands, the short-term construction disturbances are not expected to generate significant impacts on this species.

Two loggerhead shrikes were observed approximately 1 mile from the Site. The established orchards in the vicinity, and willow trees in some of the water storage ponds that occur in the vicinity, may provide suitable nesting habitat for this species and would not be impacted by the Project. The agricultural lands on which Project construction activities will occur may provide limited foraging opportunity for this species. Considering the limited foraging opportunity and vast expanses of surrounding, similar agricultural lands, the short-term construction disturbances are not expected to generate significant impacts on this species.

Project construction is not expected to impact the San Joaquin kit fox. There are no recorded occurrences of this species in the Project vicinity. No kit fox dens, scat or other identifiable sign was observed within the Site or linear corridors during site biological surveys. The closest occurrence documented within agency wildlife databases is approximately 3 miles southwest of the Site in the Kettleman Hills, west of Interstate 5. The farmer who has worked the Site and surrounding area for more than 50 years reports to have not seen San Joaquin kit fox in the vicinity (Kochergen, 2001). Interstate 5 is an effective barrier to terrestrial wildlife movement between the Kettleman Hills and the Site vicinity. Even in the event the maintained grassland swath is occasionally used by individuals for foraging and movement habitat, the Project would not affect this use because there will be no disturbance to these grasslands.

Notwithstanding the minimal potential impact on the kit fox from project construction, the USFWS has concerns that the grasslands bordering the San Luis Canal could be used by kit fox moving through the area, resulting in the potential for this species to be present in the vicinity during construction. There is ongoing ESA Section 7 Consultation for the Project that is addressing these issues, as well as potential operations impacts. The resolution of this issue will be achieved via the Section 7 process with USFWS and CDFG, whereby a USFWS Biological Opinion will be issued pursuant to a Biological Assessment based on the technical report included as Appendix 6.6-1 of this AFC and the impact assessment in this chapter. It is anticipated that any and all construction impacts on this species will be mitigated via funds paid to the CNLM, with funding provided to mitigate for the temporary impacts of construction laydown areas at a ratio of 1 acre provided for every 5 of the 51 acres (Table 2.3-7) temporarily impacted by construction activities.

The Project includes provisions for a preconstruction clearance survey to assure that the kit fox is not affected. In addition, if the preconstruction survey indicates potential use of the area by this species, construction will be conducted in conformance with the June 1999 *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or*

*During Ground Disturbance.* Considering the low or nonexistent use of the area by kit fox, and because potential animal movement along the canal would not be blocked, the short-term Project construction activities are not expected to have a significant effect on this species.

Duke Avenal will require contractors to implement an educational program to enhance construction workers' awareness in order to protect biological resources. This program may consist of biological resource sensitivity reminders at initial and periodic training sessions, posters and signs, or other measures.

As described in the preceding paragraphs, Project construction will not have a substantial adverse effect on any special status species. Based on the preceding analysis, the impacts of Project construction on special status species will be less than significant.

#### 6.6.2.2.2 Riparian and Wetland Habitat

Project construction will occur in agricultural fields and within City roadways. The Project will not affect any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the CDFG or USFWS. Habitats occurring in the Site vicinity are shown in Figure 6.6-4.

Project construction will occur in agricultural fields and within City roadways. The Project will not affect any federally protected wetlands. The man-made water storage ponds that occur in the vicinity contain aquatic vegetation but would not be affected by Project construction. The Project linear facilities have been designed to avoid the water storage ponds. No impact to wetlands will occur.

#### 6.6.2.2.3 Wildlife Nursery Sites and Corridors

As described in Section 6.6.1, there are no wildlife nursery sites in the vicinity that could be impacted by Project construction. The Project will not impact any surface water body and, therefore, will not affect any fish species. There are no identified resident or migratory wildlife corridors that would be blocked by Project construction. Maintained grasslands within the canal right-of-way, which may provide foraging and movement habitat, will not be affected by Project construction. Access will remain open along the canal bank and around the Site through the abundant agricultural terrain. Considering these factors, the short-term Project construction activities will have a less than significant effect on species movement and nursery sites.

6.6.2.2.4 Established Plans, Policies and Ordinances

Project construction will occur within agricultural fields and within City roadways in an area that is zoned for industrial development. The Site and linear corridors where construction will occur are located entirely on land developed for agriculture and various infrastructure improvements (e.g., roads, canal). There are no biological resources protected by habitat conservation plans or local policies or ordinances, either within the Site or within the linear corridors. Therefore, implementation of the Project will not conflict with any plans, local policies or ordinances protecting biological resources.

There also are no biological resources at the Site or within the linear corridors that are protected by habitat conservation plans, natural community conservation plans or other approved local, regional or state habitat conservation plan. Further, the Project will not be in conflict with any such plans.

6.6.2.2.5 Significance Summary

Based on the preceding evaluations, the short-term Project construction impacts to biological resources will be less than significant.

6.6.2.3 Operations Impacts

6.6.2.3.1 Special Status Species

At the conclusion of Project construction, the plant and ancillary facilities will permanently occupy approximately 25 acres of the Site. The remainder of the Site will be landscaped as described in Section 6.13.3.4. The water pipelines and gas pipeline interconnection will be located underground, and their operation will not affect biological resources. The electrical interconnection lines will be above ground. Maintenance activities that may be required for the linear facilities will be short-term and will be in areas that are already disturbed by agriculture. For these reasons, no significant impact on biological resources is expected from facility maintenance.

Project operations will include emission control measures to comply with relevant air quality standards, which also will protect biologic resources from indirect impacts from operations emissions. The Project also will utilize state-of-the-art combined-cycle technology designed to operate at low noise levels. Noise levels will be below applicable standards, which will protect biologic resources from significant indirect impacts from noise. Moreover, it is expected that wildlife species will become accustomed to the disturbance within a relatively short period of time,

similar to their acclimation to ongoing agricultural activities within the Project vicinity. In addition, with the vast expanse of similar agricultural habitat throughout the region, wildlife that are disturbed by noise from Project operations should be able to relocate to adjacent lands. Project operations impacts on wildlife from emissions and noise, therefore, are expected to be less than significant.

The water supply secured for Project operations will have no impact on biological resources (see Section 6.5 - Water Resources). Storm water discharges from the Site will be in accordance with the State General NPDES Permit, and an SWPPP and BMPs will be implemented to prevent impacts to storm water quality. Wildlife will not be impacted by storm water runoff because of these water quality protection measures and because changes in runoff conditions will be minor (see Section 6.5 - Water Resources). No wildlife impacts are expected due to the use or discharge of water during operations.

The Site vicinity is used by a variety of resident and migratory bird species during seasonal migrations and local flights. Groups of birds, including passerines, shorebirds and raptors, fly over the Central Valley on their way to wintering or nesting grounds, and also during local flight occurrences. Special-status raptors, such as Cooper's hawk and prairie falcon, could fly over the Site. An existing high-voltage transmission line corridor occurs approximately 3,000 feet southwest of the Site, so only a short segment of electric transmission line will be associated with the Project to connect to this line.

One hundered twenty foot 230 kV steel lattice towers with large diameter conductors and insulators will be used to interconnect to the PG&E electrical system. The large diameter conductors and insulators will minimize collisions by avian species. Bird diverters will be installed if required by USFWS.

Project operations will not affect any sensitive plant species, natural vegetation or wildlife habitat. No plant species identified as candidate, sensitive or special status species are known to occur at the Site or within the linear corridors. The Site occurs entirely on lands that are actively being farmed with row crops. Surrounding lands are row crops and new orchards (planted 2001). The predominant wind direction in the area is from the northwest, and the cooling towers are located approximately 500 feet from the predominant downwind property line. Therefore, mist fallout is not expected to occur offsite.

Special status animal species that occur in the vicinity include the double-crested cormorant, Cooper's hawk, western burrowing owl and loggerhead shrike. There are no records of

San Joaquin antelope squirrel or San Joaquin pocket mouse in the Project vicinity, and the maintained grassland areas within the canal right-of-way that might provide suitable habitat for these species will not be affected by Project operations. All recorded San Joaquin kit fox sitings within the 10-mile radius evaluated for biological resources occurred in the Kettleman Hills, west of Interstate 5 and out of the developed farmland terrain.

The double-crested cormorant is known to utilize the waters of the San Luis Canal for foraging. However, there are no known nesting sites for this species within the 10-mile radius of biological evaluations, and there is no suitable nesting habitat within 1 mile of the Site or within 1,000 feet of the linear corridors. Project operations will not affect the nesting abilities of this species, nor will they affect its ability to forage within the canal. Therefore, no significant impact on this species is expected.

Because there are no dense tree stands or other suitable habitat, the Site vicinity is not important habitat for the Cooper's hawk. One individual that was observed flying over the Site was likely on a seasonal migration. Project operations will not affect the ability of this species to migrate through the area. Based on these considerations, no significant impact on this species is expected.

The grasslands within the canal right-of-way provide suitable nesting and foraging habitat for the western burrowing owl and will not be disturbed by Project operations. The agricultural lands that occur on the Site also may provide limited foraging habitat for this and other species. Approximately 25 acres of the Site will be occupied by facilities for the operational period of the Project. Considering the limited nature of foraging opportunities on this 25 acres, nearby suitability of more appropriate habitat (i.e., the grasslands adjacent to the canal) and the vast expanses of surrounding similar agricultural lands, the small loss of cropland during the period of operations will not adversely impact the species.

The grasslands within the canal right-of-way provide suitable foraging habitat for the loggerhead shrike and will not be disturbed by Project operations. In addition, Project operations will not affect established orchards and trees in the vicinity that may provide suitable nesting sites for the loggerhead shrike. The row crops that occur within the Site, and the new orchards adjacent to the Site, do not provide nesting sites for this species and provide only limited foraging opportunities. For the period of Project operations, approximately 25 acres will be occupied by Project facilities. Considering the limited nature of foraging opportunities within the site, nearby availability of more suitable habitat (i.e., the grasslands adjacent to the canal), and vast expanses of surrounding similar

agricultural lands, the small loss of cropland during the period of operations will not adversely impact the species.

Project operations are not expected to adversely impact the kit fox. There are no recorded occurrences of this species in the Project in the vicinity. No kit fox dens, scat or other identifiable sign were observed in the vicinity during Site biological surveys. Considering that the Project will not disturb the canal right-of-way grasslands, and considering the abundance of similar surrounding agricultural terrain, the Project will not block the movement of potentially occurring individuals along the canal. Access will remain open along the canal banks and around the Site through the surrounding agricultural terrain. Considering these factors, and the lack of occurrence data for kit fox within the vicinity, Project operations will not have a significant impact on this species. It is anticipated, however, that any potential operations impacts to the kit fox will be handled in the same manner as construction impacts. That is, the USFWS, under an ongoing Section 7 Consultation Process under the Endangered Species Act, will issue a Biological Opinion as to these potential impacts, pursuant to a Biological Assessment based on the technical report provided in Appendix 6.6-1 of this AFC and the impact assessment in this chapter. Current information indicates that compensation for potential operations impacts will be provided on a ratio of 1 acre funded for each of the 25 acres of direct Project impact (Table 2.3-7). The mitigation, as mutually agreed upon with USFWS, is proposed to be achieved via funds paid to the CNLM, which manages over 6,000 acres in a land conservation bank in western Kern County.

Duke Avenal will implement an educational program to enhance employee awareness in order to protect biological resources. This program may consist of biological resource sensitivity reminders at initial and periodic training sessions, posters and signs, or other measures.

Based on the above, Project operations will not have a significant adverse impact on any special status species. Based on the preceding analysis, the impacts of Project operations on special status species will be less than significant.

#### 6.6.2.3.2 Riparian and Wetland Habitat

Project operations will occur entirely within agricultural fields and city roadways. Project operations will not affect any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the CDFG or USFWS. Habitats occurring in the Site vicinity are shown in Figure 6.6-4.

Project operations will not affect wetlands. There are no wetlands located within the Site or in areas where linear corridor maintenance disturbances may occur during operations.

6.6.2.3.3 Wildlife Nursery Sites and Corridors

Section 6.6.1 describes the existing environment and demonstrates that there are no wildlife nursery sites in the vicinity that could be impacted by Project operations. The Project will not impact any surface water body and, therefore, will not affect any fish species. There are no identified resident or migratory wildlife corridors that would be blocked by Project facilities. Maintained grasslands within the canal right-of-way, which may provide foraging and movement habitat, will not be affected by Project construction. Access will remain open along the canal bank and around the Site through the abundant agricultural terrain. Considering these factors, Project operations will have a less than significant impact on wildlife movement and nursery sites.

6.6.2.3.4 Established Plans, Policies and Ordinances

The Site is located within agricultural fields in an area that is zoned for industrial development. The Site and linear corridors where Project-related maintenance may occur are located entirely on land developed for agriculture and various infrastructure improvements (e.g., roads, canal). There are no biological resources in the vicinity that are protected by habitat conservation plans or local policies or ordinances. Therefore, implementation of the Project would not result in conflicts with plans, policies or ordinances for protection of biological resources.

There also are no biological resources at the Site or within the linear corridors that are protected by habitat conservation plans, natural community conservation plans, or other approved local, regional or state habitat conservation plans. Further, Project operations would not be in conflict with any such plan.

6.6.2.3.5 Significance Summary

Based on the preceding evaluations, Project operation impacts to biological resources will be less than significant.

6.6.2.4 Cumulative Impacts

The Site occurs on agricultural land zoned for industrial development. This land has marginal habitat value and provides only low-quality foraging opportunities for local wildlife species. The

removal of row crops at the Site will incrementally reduce the amount of low productivity agricultural habitat available to common and special-status wildlife species throughout the region. As described in Section 6.6.2.3.1, Avenal Energy will offset the loss of acreage occupied by long-term facilities at a 1:1 ratio. The land conservation that will be funded is expected to be in a more natural state and have greater habitat value than the intensively disturbed farmlands that occur in the Project vicinity. Therefore, the long-term impact of the Project will be a net benefit to biological resources. No habitat fragmentation impact will occur because the Site is very small compared to the vast expanse of similar agricultural habitat in surrounding areas, and because animal movement will not be blocked.

Other projects that could potentially generate cumulative impacts are identified in Section 6.1.4. The Site is located in the southwest San Joaquin Valley, far from the pressure of urbanization, and there is no foreseeable threat to the vast expanses of agricultural habitat that occurs in the region. Since the Project will not impact wetlands, riparian vegetation or other sensitive natural communities, and will not conflict with any local biological resource protection policies or ordinances or habitat conservation plans, there will be no related cumulative impacts. The Project also does not affect any natural or particularly productive habitat, which further limits the potential for cumulative impacts. Considering this, other projects are too distant and geographically spread to have substantial cumulative impacts to wildlife movement or habitat modifications. The exception is the City water turnout that is located near the Site. The City's water turnout relocation project is a small construction project that will result in minimal ground disturbance. The new turnout location is within 1 mile of the Site, so related biological resources are the same as those described in Section 6.6-1. There are no wetlands or other sensitive resources known to occur on land that would be disturbed for the relocation. Based on these considerations, no substantial cumulative impact on wetlands, sensitive species, wildlife movement or habitat modification will occur. Therefore, cumulative impacts related to biological resources will be less than significant.

#### 6.6.2.5 Project Location and Design Features That Avoid or Minimize Impacts

The following Site characteristics and Project design features limit the impacts to biological resources to a level that is less than significant:

- The Site was selected so that construction and operations will occur entirely within active agricultural land and, therefore, the Project will not result in the removal of natural vegetation or wildlife habitat.
- The Site was selected so that there are no native fish or wildlife species of commercial or recreational value that could be affected by the Project.

- Project design, construction and operations include specific features to control the generation of fugitive dust so as not to affect surrounding agricultural operations.
- Project landscaping will assure that weedy species are not introduced to the Site or surrounding areas.
- The 230 kV transmission line interconnection will be constructed with 120-foot high steel lattice towers and large diameter conductor and insulators. The large diameter conductors and insulators will minimize potential for collision by avian species. Bird flight diverters will be installed on the transmission line interconnection if required by USFWS.
- Project lighting will be directed downward to minimize affects to wildlife.
- Project construction and operation will include emission control measures to comply with relevant air quality standards, which also will protect biologic resources.
- Relevant standards for noise control will be followed during construction and operations that also will protect biologic resources from indirect impacts from noise.
- While no sensitive species are known to occur within the Site or linear corridors, the Project design includes provisions for a preconstruction clearance survey and an employee education program to assure that sensitive species are not adversely affected.
- If any sign of kit fox is observed, construction will be performed in conformance with the June 1999 *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance.*
- The Project will comply with California Pesticide Regulations (CCR Title 3, Division 6) to minimize the use of rodenticides and herbicides.

Duke Avenal will mitigate the potential for affects to kit fox that might occur in the area via funds paid to the CNLM, with funding provided to mitigate for the temporary impacts of construction laydown areas at a ratio of 1 acre provided for every 5 acres temporarily impacted, plus an additional 1 acre for each acre of long-term disturbance by permanent Site facilities.

### 6.6.3 MITIGATION MEASURES

Plant and animal species listed as threatened or endangered have specific requirements under the Federal and California Endangered Species Acts when a project could have an adverse effect on them or their habitats. Due to Project design features and sight characteristics, the Project will not have significant impacts on biological resources. Nonetheless, the Project will contribute to CNLM for land purchases and maintenance of property to mitigate for any potential impacts to the kit fox as specified in the expected USFWS Biological Opinion. No other mitigation measures are required. The land purchases will be funded prior to construction of the project. The funding includes monitoring and maintenance of the land by CNLM. Therefore, there is no need for compliance monitoring programs for this mitigation.

### 6.6.4 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Due to Project design features and Site characteristics, the Project will not have significant unavoidable adverse impacts on biological resources.

### 6.6.5 LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)

LORS related to biological resources that are relevant to the Project are listed in Table 6.6-3, along with an identification of the administering agencies and Project approach to compliance. The Project will comply with applicable LORS during construction and operation.

The Project will require completion of ESA Section 7 Consultation for potential impacts to kit fox. The USFWS will issue a Biological Opinion pursuant to a Biological Assessment that will be based on the Biological Resources Technical Report in Appendix 6.6-1 and the impact assessment in this chapter. Duke Avenal has been coordinating with USFWS and CDFG on this issue. Agency contacts are provided in Table 6.6-4. The Section 7 Consultation is expected to be completed during the first quarter of 2002. There are no other permits or approvals required for the Project for biological resources that are outside the jurisdiction of the Commission.

# TABLE 6.6.3

## SUMMARY OF BIOLOGICAL RESOURCES LORS AND COMPLIANCE



| JURIS-DICTION | LORS/AUTHORITY | ADMINISTERING AGENCY(1) | REQUIREMENTS/ COMPLIANCE | APPROACH TO COMPLIANCE | AFC SECTION |
|---|---|---|---|---|---|
| Federal | Endangered Species Act of 1973; 16 USC §1531 et seq., 50 CFR Parts 17 and 222. | USFWS. | Protection and management of federally-listed threatened or endangered plants and animals and their designated critical habitats (terrestrial and avian species). | Section 7 consultation will be completed for potential impacts to kit fox. Provide results of consultation to the Commission. Implement appropriate measures, developed in consultation with USFWS. | Sections 6.6 - Biological Resources, 6.6.1, 6.6.1.3.2, 6.6.1.4.5, 6.6.2.2, 6.6.2.3, and 6.6.2.5<br>Pages 6.6-1 through 6.6-14, 6.6-25, 6.6-26, 6.6-28 through 6.6-37<br>Appendix 6.6-1 |
| | Migratory Bird Treaty Act; 16 USC §703-711; 50 CFR Subchapter B. | USFWS. | Protection of migratory birds. | Provide information to USFWS and Commission. Implement appropriate measures, if any, developed with USFWS through the AFC process. The project will incorporate bird flight diverters if required by USFWS to minimize the potential for collision impact to migratory birds. | Sections 6.6.1.3.1, 6.6.1.3.2, 6.6.1.4.4, 6.6.1.4.5, 6.6.2.2.1, 6.6.2.3.1, and 6.6.2.5<br>Pages 6.6-5 through 6.6-14, 6.6-24 through 6.6-31, 6.6-33, 6.6-37 and 6.6-38 |
| | Fish and Wildlife Conservation Act, 16 USC Section 2901 et seq.; 50 CFR part 83. | USFWS. | Calls on states to develop conservation plans for fish and wildlife. | There are no conservation plans applicable to the Site vicinity. | Sections 6.6.2.2.4 and 6.6.2.3.4<br>Pages 6.6-32 and 6.6-36 |
| State | California Endangered Species Act of 1984; California Fish & Game Code §2050-2098. | CDFG. | Consultation requirement for threatened or endangered species. Endangered plants and animals are listed in 14 CCR §670.2 and 670.5. | Consultation with CDFG under Section 2050 - 2098 of the California Fish and Game Code. Provide results of consultation to the Commission. Implement appropriate measures, developed in consultation with CDFG. | Sections 6.6.2.2.1, 6.6.2.3.1 and 6.6.2.5<br>Pages 6.6-30, 6.6-35, 6.6-37 and 6.6-38 |
| | Native Plant Protection Act of 1977; California Fish and Game Code §1900 et seq. | CDFG. | Protection for plants listed as rare or endangered. | Provide information to CDFG and CEC through the AFC process regarding lack of impact of native plant species and show compliance with the California Native Plant Protection Act. | Sections 6.6.1.3.2, 6.6.1.4.5, Pages 6.6-6 through 6.6-11, 6.6-25<br>Appendix 6.6.1 |
| | California Fish and Game Code §1930-1933. | CDFG, Natural Heritage Division. | Provides for significant Natural Areas program and natural resources database. | Provide information to CDFG and the Commission through the AFC process regarding lack of impact to "Natural Areas" and show compliance with the Natural Heritage Division requirements. | Sections 6.6.1.2.2, 6.6.1.4.2, 6.6.1.4.3 and 6.6.2.5<br>Pages 6.6-5, 6.6-17, 6.6-18 through 6.6-24 and 6.6-37<br>Appendix 6.6-1 |

# TABLE 6.6.3

## SUMMARY OF BIOLOGICAL RESOURCES LORS AND COMPLIANCE
**(Continued)**



| JURIS-DICTION | LORS/AUTHORITY | ADMINISTERING AGENCY(1) | REQUIREMENTS/ COMPLIANCE | APPROACH TO COMPLIANCE | AFC SECTION |
|---|---|---|---|---|---|
| State (Cont'd) | California Fish & Game Code §3503. | CDFG. | No taking or possessing of nests or eggs of birds. | Provide information to CDFG and the Commission through the AFC process regarding lack of impact to nesting birds protected under Section 3503 of the California Fish and Game Code. | Sections 6.6.1.4.2, 6.6.1.4.3, 6.6.1.4.5, 6.6.2.2, 6.6.2.3 and 6.6.2.5 Pages 6.6-17 through 6.6-38 Appendix 6.6-1 |
| | California Fish & Game Code §3511. | CDFG. | Prohibits the taking of any bird listed as fully protected. | Provide information to CDFG and the Commission through the AFC process regarding lack of "taking" of protected bird species in accordance with Section 3511 of the California Fish and Game Code. | Sections 6.6.1.4.2, 6.6.1.4.3, 6.6.1.4.5, 6.6.2.2, 6.6.2.3 and 6.6.2.5 Pages 6.6-17 through 6.6-38 Appendix 6.6-1 |
| | California Fish & Game Code § 3515. | CDFG. | Unlawful to take any non-game migratory bird designated in the Migratory Bird Treaty Act. | Provide information to CDFG and the Commission through the AFC process regarding lack of "taking" of non-game, migratory birds designated in Migratory Bird Treaty Act. | Sections 6.6.1.4.2, 6.6.1.4.3, 6.6.1.4.5, 6.6.2.2, 6.6.2.3 and 6.6.2.5 Pages 6.6-17 through 6.6-38 Appendix 6.6-1 |
| | California fish & Game Code §§ 4700 and 5515. | CDFG. | Prohibits the taking of mammals and fish listed as fully protected. | Provide information to CDFG and the Commission through the AFC process regarding lack of "taking" of fully protected mammals and fish in accordance with Sections 4700 and 5515 of the California Fish and Game Code. | Sections 6.6.1.4.2, 6.6.1.4.3, 6.6.1.4.5, 6.6.2.2, 6.6.2.3 and 6.6.2.5 Pages 6.6-17 through 6.6-38 Appendix 6.6-1 |
| | California Fish & Game Code §5050. | CDFG. | Prohibits the taking of any reptile listed as fully protected. | Provide information to CDFG and the Commission through the AFC process regarding lack of "taking" of fully protected reptile species in accordance with Section 5050 of the California Fish and Game Code. | Sections 6.6.1.4.2, 6.6.1.4.3, 6.6.1.4.5, 6.6.2.2, 6.6.2.3 and 6.6.2.5 Pages 6.6-17 through 6.6-38 Appendix 6.6-1 |
| | CEQA; California PRC §21000 et seq. | Commission. | Protection of California environment. | Provide information to the Commission through the AFC process showing protection of the California environment and lack of impact from the Project. | Sections 6.6.2.2, 6.6.2.3 and 6.6.2.5. Pages 6.6-28 through 6.6-38 Appendix 6.6-1 |

# TABLE 6.6.3

## SUMMARY OF BIOLOGICAL RESOURCES LORS AND COMPLIANCE
**(Continued)**



| JURIS-DICTION | LORS/AUTHORITY | ADMINISTERING AGENCY(1) | REQUIREMENTS/ COMPLIANCE | APPROACH TO COMPLIANCE | AFC SECTION |
|---|---|---|---|---|---|
| | California PRC §25523(a); 20 CCR §1752,1752.5, 2300-2309 and Chapter 2, Subchapter 5, Article I, Appendix B, Part (i). | Commission, with comment by CDFG. | Inclusion of requirements for Commission decision on AFC to assure protection of listed species. | Provide information to the Commission through the AFC process regarding lack of impact to listed species and how the Project protects listed species. Project specific conditions of certification adopted by the Commission for protection of listed species will be implemented. | Sections 6.6.1.4.2, 6.6.1.4.3, 6.6.1.4.4, 6.6.1.4.5, 6.6.2.2, 6.6.2.3 and 6.6.2.5 Pages 6.6-17 through 6.6-38 Appendix 6.6-1 |
| | California Pesticide Regulations, 3 CCR, Division 6. | California Department of Pesticide Regulation. | Requires minimizing the use of rodenticides and herbicides. | The Project will include measures requiring compliance with California Pesticide Regulation (3 CCR, Division 6) to minimize the use of rodenticides and herbicides. | Section 6.6.2.5 Page 6.6-38 |
| | California Native Species Conservation and Enhancement Act, CDFG Code Section 1750 et seq. | CDFG. | Mandates maintenance of sufficient populations of native species to ensure continued existence. | Provide information to CDFG and the Commission through the CEC process regarding lack of impact to native species in accordance with Section 1750 et seq. of the California Fish and Game Code. | Sections 6.6.1.4.2, 6.6.1.4.3, 6.6.1.4.4, 6.6.1.4.5, 6.6.2.2, 6.6.2.3 and 6.6.2.5 Pages 6.6-17 through 6.6-38 Appendix 6.6-1 |
| Local | City of Avenal General Plan. | City of Avenal. | Contains environmental protection policies and programs. Together call for protection of environmentally sensitive habitat areas. Specifies types of permitted uses and conservation requirements. | Provide information to the City of Avenal and the Commission through the Commission's process regarding lack of impact to protected and environmentally sensitive habitat areas in accordance with the policies of the City's General Plan. | Sections 6.6.1.4.2, 6.6.1.4.3, 6.6.1.4.4, 6.6.1.4.5, 6.6.2.2, 6.6.2.3 and 6.6.2.5 Pages 6.6-17 through 6.6-38 Appendix 6.6-1 |
| Industry | None Applicable | None Applicable | None Applicable | None Applicable | None Applicable |

31161/Avenal AFC/Tbls&Figs (10/4/01/jb)

(1) Pursuant to CCR Title 20, Appendix B(h)(1)(B): Each agency with jurisdiction to issue applicable permits and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the Commission to certify sites and related facilities.

## TABLE 6.6.4

## AGENCY CONTACTS FOR BIOLOGICAL RESOURCES

| AGENCY AND CONTACT | PERMITTING/APPROVAL AUTHORITY |
|---|---|
| U.S. Fish and Wildlife Service<br>Peter Cross<br>San Joaquin Valley Branch Chief<br>Endangered Species Program<br>2800 Cottage Way<br>Suite W-2605<br>Sacramento, CA 95825-1846<br>(916) 414-6655 | Section 7 Consultation and Biological Opinion |
| California Department of Fish and Game<br>Michael Mulligan<br>1234 East Shaw Avenue<br>Fresno, CA 93710<br>(559) 243-4014 | Consultation and Adoption of USFWS Biological Opinion |
| U.S. Environmental Protection Agency - Region 9<br>Jerado Rios<br>Acting Supervisor<br>Permits Office<br>Air Division<br>75 Hawthorne Street<br>San Francisco, CA 94105-3901 | Initiate Formal Consultation Under Section 7 of ESA. |

## 6.6.6 REFERENCES

California Department of Fish and Game (CDFG). California Natural Diversity Database. 2001.

Kochergen, J. and M. Kochergen. Personal communication with Joe Stenger (TRC). 2001.

Orloff, S.G. Survey Techniques for the San Joaquin Kit Fox *(Vulpes macrotis mutica)*. Pages 185-198 in: *Endangered and Sensitive Species of the San Joaquin Valley, California*. (Eds. D.F. Williams, S. Byrne and T.A. Rado). California Energy Commission, Sacramento, California. 1992.

U.S. Fish and Wildlife Service (USFWS). *Recovery Plan for Upland Species of the San Joaquin Valley, California*. Region 1, Portland, Oregon. 319 pp. 1998.

Vance, J. California Department of Water Resources. Personal communication regarding Biological Resources that have been sited in the vicinity of the Project. 2001.